



TECHNICAL BULLETIN

Geolocation Field Testing and Additional Guidance

Overview: Pursuant to Rule 15.1.7.Q(4) of the Tennessee Education Lottery Corporation’s (“TEL”) Sports Gaming License Rules, Regulations and Standards (“Rules”), this Technical Bulletin provides additional geolocation requirements.

I. Geolocation Requirement

In order to prevent unauthorized use of the internet or a mobile device to place a sports wager when a patron is not within the State of Tennessee, the sports wagering operator shall utilize a licensed geofence system to reasonably detect the physical location of a patron attempting to access the online sports wagering system and place a wager; and to monitor and block unauthorized attempts to access the online sports wagering system in order to place a wager when a patron is not within the permitted boundary.

II. Applicable Definitions

1. **"Geolocation"** means the identification of the real-world geographic location of a player participating via an online sports wagering system.
2. **"Geofence"** means a virtual geographic boundary defined by GPS or RFID technology, which enables software to trigger a response when a mobile device enters or leaves a particular area.
3. **"Geofence System"** means a process to reasonably detect the geolocation of a patron attempting to access the online sports wagering system and place a wager.

III. Technical Standards

1. Frequency

To ensure the patron is located within the permitted boundary of the State of Tennessee, the Geofence System must be equipped to dynamically monitor the patron's location and block unauthorized attempts to access the sports wagering

system throughout the duration of the sports wagering patron session.

2. The sports wagering system shall trigger:
 - a. A Geolocation check prior to the placement of the first bet or wager.
 - b. Recurring periodic geolocation checks, if a sports wagering patron session is longer than a single bet or wager (e.g. deposit, withdrawal, etc.) shall be administered as follows:
 - i. Static connection: recheck every twenty (20) minutes or five (5) minutes if within one (1) mile of the border.
 - ii. Mobile Connections: recheck intervals to be based on a patron's proximity to the border, with an assumed travel velocity of 70 miles per hour, and a maximum interval not exceeding twenty (20) minutes.
 - c. The sports wagering operator must define the reasons for all trigger instances (e.g. single bet or wager, deposit, etc.); and communicate the trigger reason and an anonymized User ID (i.e. no names or personal data) to the Geofence System when requesting each geolocation check.
 - d. A Geolocation check must be conducted immediately upon the detection of a change of the patron's internet protocol ("IP") address.
 - e. If a sports wagering system determines that a patron is located outside of the State of Tennessee, the patron must be provided limited access to the sports wagering system and their patron account, but must be prohibited from placing a wager until a geolocation re-check is performed that confirms the patron is within the State of Tennessee.
3. Location Data accuracy
 - a. To ensure location data is accurate and reliable, the Geofence System shall:
 - i. Utilize pinpoint accurate location data sources to confirm the player is located within the permitted boundary, State of Tennessee;
 - ii. When Carrier data is used, the patron's device (where the gaming session occurs) and the Carrier data source (i.e. mobile device) must be in proximity to each other;

- iii. Disregard IP location data for devices utilizing mobile internet (3G/4G/LTE) connections;
 - iv. Possess the ability to control whether the accuracy radius of the location data source is permitted to overlap or exceed defined buffer zones or the permitted boundary.
- b. To mitigate and account for discrepancies between mapping sources and variances in geospatial data, and to ensure accuracy of location data, the Geofence System shall:
 - i. Utilize boundary polygons based on audited maps; and
 - ii. Overlay location data onto these boundary polygons.

4. Location Data Integrity

To ensure the integrity of location data, the Geofence System shall:

- a. Detect and block location data fraud (e.g. Proxy servers, Fake Location Apps, Virtual Machines, Remote Desktop Programs, etc.);
- b. Utilize detection and blocking mechanisms verifiable to a source code level; and
- c. Follow best practice security measures to stop "man in the middle" attacks and prevent code manipulation.

5. Mobile Wagering Devices

To ensure the integrity of a player's device, the Geofence System shall detect and block non-secure devices and/or those which indicate sports wagering system-level tampering (e.g. rooting, jailbreaking).

6. Patron Integrity

To ensure the integrity of a patron, the Geofence System shall detect and block patrons that make repeated unauthorized attempts to access the online sports wagering system.

7. Reporting and Analytics

Given that location fraud must be assessed on a single geolocation check, as well as cumulative patron histories over time, the Geofence System shall:

- a. Display a real-time data feed of all geolocation checks and potential

- fraud risks;
- b. Offer an alert system to identify unauthorized or improper access; and
- c. Facilitate routine, recurrent delivery of supplemental fraud reports pertaining to the following instances:
 - i. Suspicious or unusual activities;
 - ii. Account sharing;
 - iii. Malicious devices; and
 - iv. Other high risk transactional data.

8. System Maintenance

To verify the overall integrity of the Geofence System, it shall:

- a. Be reviewed regularly to assess and measure its continued ability to detect and mitigate existing and emerging location fraud risks;
- b. Undergo frequent updates, at least one every three months, to maintain cutting-edge data collection, device compatibility, and fraud prevention capabilities; and
- c. Utilize databases (IP, proxy, fraud, etc.) that are updated daily at minimum and are not open-source.

9. Geolocation Error Messages to Patrons

The sports wagering operator shall implement the delivery of a message to be sent to an online or mobile wagering device to notify the user of a geolocation failure. The following messages are approved for use with the listed triggering events:

- a. A Geolocation Result Exceeds A TEL Approved Threshold, Or Insufficient Geolocation Is Obtained For The Patron:

"We are unable to confirm that you are located in the State of Tennessee, which is a legal requirement for online wagering. This appears to be a technical problem. Please contact our customer service department so we can help you resolve this problem."

b. **The Geofence System Has Detected Potential Location Fraud:**

"We have detected that you are accessing the Internet through a proxy, VPN, or other service which has the ability to misrepresent the geographic location of a computer or mobile device. While your use of this service may be inadvertent, we are not able to confirm your location which is a legal requirement for online wagering. Please contact our customer service department so we can help you resolve this problem."

c. **Software Is Found Running On The Patron's Device Which Could Be Used To Circumvent Geolocation:**

"Your device is running software which may be utilized to bypass geolocation checks which are required by Tennessee law. While your use of this software may be inadvertent, we are not able to confirm your location which is a legal requirement for online wagering. Please contact our customer service department so we can help you resolve this problem."

d. **Not Enough Location Data or Data Accuracy is Low (desktop PC/Mac):**

"We cannot verify that you're within a permitted area. To help us verify your location, make sure your WiFi is turned on and that multiple WiFi connections are within range of your device. Please address these items and try again."

e. **Not Enough Location Data or Data Accuracy is Low (mobile device):**

"We cannot verify that you're within a permitted area. To help us verify your location, make sure your Location Services is turned on and that multiple WiFi connections are within range of your device. Please address these items and try again."

f. **IP Address Located Outside Permitted Area:**

"Your IP address indicates you are not in a permitted area. Please make sure that you are within a permitted area, and try again."

g. **Too Close to Border of Another State:**

"You're close to a border area so we cannot verify that you are within a permitted area. To help us verify your location, make sure your WiFi is turned on and that multiple WiFi connections are within range of your device. Please address these items and try again."

h. **Running IP Anonymizer:**

"For security purposes, you're required to turn off VPNs, Proxies and IP anonymizers. Please address these items and try again."

i. **Proxy Detected:**

"For security purposes, you are required to turn off Proxies. Please disable, and try again."

j. **Not on the Latest Required Version of Geolocation Software:**

"For security purposes, we need to verify your location using our latest software release. Please update to the latest version and try again."

k. **Location Jumpers/ Account Sharing & Advanced Fraud:**

"For security purposes, your account has been flagged for potential fraud. Please be aware that it is illegal to bet or wager from outside the permitted area. We may unflag your account if our fraud team determines this activity was inadvertent."

l. **Remote Desktop Software Detected:**

"For security purposes, you're required to disable prohibited software. Please disable {software name}, and try again."

m. **Mobile Device Tampering Detected:**

"For security purposes, you are required to play from a device that has not been rooted/jailbroken nor subject to location tampering tools. Please use a different device to continue and/or discontinue the use of such tools."

Should you have any questions regarding this Technical Bulletin, please contact the Sports Wagering Division at 615-324-6557.